BRIEF COMMUNICATION
Iran J Allergy Asthma Immunol
February 2016; 15(1):75-81.

Quantitative Evaluation of BAFF, HMGB1, TLR 4 and TLR 7 Expression in Patients with Relapsing Remitting Multiple Sclerosis

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Received: 15 March 2015; Received in revised form: 4 April 2015; Accepted: 10 May 2015

ABSTRACT

Multiple sclerosis is a chronic inflammatory disease of the central nervous system characterized by a complex immune response. Because of the complex nature of MS pathogenesis, a panel of biomarkers derived from different platforms will be required to reflect disease-related alterations.

Monitoring and evaluation of molecules associated with the pathogenesis of the disease would provide useful information on disease progression and therapeutic assessment. In view of this, we evaluated the mRNA expression levels of B-cell activating factor (BAFF), high mobility group box 1 (HMGB-1), Toll like receptor (TLR) 4 and TLR7 in MS. These molecules are implicated in the pathogenesis of MS; however, they have received little attention. PBMCs were isolated from whole blood of 84 relapsing remitting multiple sclerosis patients and 70 healthy controls. Relative quantitative RT-PCR was applied to quantify the transcriptional levels of the immune markers.

The mRNA expression levels of TLR7 were significantly elevated in RRMS patients than healthy controls. TLR4 expression was found to be significantly lower in the patients than control group. We found no difference analyzing the mRNA levels of BAFF and HMGB1. Our data highlights the immune marker correlates in RRMS patients.

However, further in-depth studies are warranted to check the role and the relevance of these immune markers in autoimmune diseases such as MS.

Keywords: Biomarkers, Cytokines, HMGB proteins, Inflammation, Multiple Sclerosis, RNA messenger

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Published by Tehran University of Medical Sciences (http://ijaai.tums.ac.ir)